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WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER	
ZALUKAEVA, TATYANA	
ART UNIT	**PAPER NUMBER**
1713	

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/070,915	LETH-OLSEN ET AL.	
	Examiner	Art Unit	
	Tatyana Zalukaeva	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *11-43* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 43 is objected to because its status is not identified.

2. Rejection of claims 11-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is overcome by Applicants' amendment and the rejections are, therefore, withdrawn. .

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 21-31 stand rejected ands new claims 32-43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO97/40076, as per reasons of record.

Claims 21-31 are product-by-process claims, and the emphasis is made on the product and its characteristics, and secondary on the process by which it is made.

WO'076 discloses spherical polymer particles with a narrow size distribution in the range of 10-50 micron (abstract). Initial seed particles are obtained with the size of 1-10 micron in one stage polymerization process (abstract). On page 6 dispersion polymerization one stage process is referred to in directly making particles with diameters up to 10 micron and a narrow size distribution. Examples A1-7 provide for the procedure of making the seed particles.

Furthermore there is no evidence, or no reason to believe that the process of polymerization as instantly claimed produces a different product, that of a polymerization of WO'076, consult ***In re Thorpe***, 227 USPQ 964 (CAFC 1985), wherein the Examiner rejected product-by-process claims over a product, which although prepared in a different manner, appeared to be the same (prima facie) as the claimed product.

Furthermore, because of the nature of product-by process claims, the Examiner cannot ordinary focus on the precise difference between the claimed product and the disclosed product. It is then Applicants' burden to prove that an unobvious difference exists. See ***In re Marosi***, 218 USPQ 289, 292-293 (CAFC 1983).

In the instant case no Graham vs. John Deere analysis was made but rather the test set out in MPEP 706.03(e) and In re Marosi was applied while explaining why the claimed product does not patentably distinguish over the prior art under 35 USC 102/103.

See also footnote 11 O.G. Notice 1162 59-61, wherein a 35 USC 102/103 rejection is authorized in the case of product-by-process claims because the exact identity of the claimed product or the prior art product cannot be determined by the Examiner.

5. Claims 11-21 stand rejected under 35 U.S.C. 102(b) as being anticipated by Kasai et al (U.S. 4,694,035), as per reasons set forth in the previous Office Action on the merits.

Kasai discloses process for preparing spherical polymer particles having a particle diameter in a range of 0.1 to 500 micron **by one stage seeded polymerization** , comprising:

a) finely dispersing a polymerizable monomer in an aqueous medium to prepare a monomer dispersion in which a number average particle diameter of the resulting monomer droplets is not larger than that of seed particles (abstract, col. 2, lines 60-62),

b) adding the monomer dispersion to the dispersion of seeded particlers;

c) polymerizing the polymerizable monomer (abstract, Fig.2-4). The particles are **monodisperse** regardless of the monomer(col.2, lines 67, 68), which inherently meets

the limitations on CV value of the instant claimes. The particles can be swollen to about 1,000-10,000 of their original size (col.8, lines 16-20).

Therefore, all the steps of the process, along with characteristics of resulting particles are met by Kasai. The monodisperse particles of Kasai process are obtained regardless the monomers to be polymerized (paragraph bridging col.2 and 3). The particles are monodisperse (col.2, line 64). This inherently meets the limitations on CV (variation coefficient). It is emphasized that uniform seed particles having a standard deviation falling within a range of 10% from a number average particle diameter are preferably used. This expressly meets the limitations on CV value. In accordance with the process of Kasai, the aqueous monomer dispersion as prepared is combined with a dispersion of seed particles in the same stage to make the polymerizable monomer absorbed or adsorbed on the seed particles, whereupon swollen particles are obtained (col.4, lines 63-68). Moreover, by using monodisperse seed particles, swollen particles in a monodisperse form can be obtained.(col. 5, lines 5-7). In order to decrease the number average particle diameter Dm, it is sufficient to add oily substances to the monomer, said oily substances having a smaller water solubility than the monomer and exerting no adverse influences on polymerization. Oily substances the water solubility of which is not more than 1/100 of that of the monomer are preferred. Representative examples of such oily substances are **solvents** such as hexane, decane and petroleums, polymerization initiators such as lauroyl peroxide and octanoyl peroxide, and monomers such as 2-ethylhexyl acrylate and stearyl methacrylate. For example, Dm of a dispersion as prepared by finely dispersing MMA in water in the presence of a

surface active agent is about 26 micron. When n-hexane is added in an amount of 1 wt% based on the weight of MMA, the resulting number average particle diameter Dm is about 5 micron. Upon polymerization of MMA under such conditions, monodisperse MMA polymer particles having a particle diameter in a range of 2 to 10 micron can be formed (col.6, lines 5-22). There is no special limitation to the upper limit of the mixing ratio of the polymerizable monomer to the seed particles. As long as the relation as represented by the equation (a) is satisfied, the seed particles can be easily swollen usually to about 1,000 to 10,000 times the original size. Table I in col.15, 16 provides the properties of particles obtained by Kasai's process. Thus the limitations of the instant process are either expressly or inherently met by Kasai.

Response to Arguments

1. Applicant's arguments filed 03/15/2004 have been fully considered but they are not persuasive.

With regard to claims 21-31, i.e. product-by-process claims Applicants arguments reside in contention that the process of WO'076 that is allegedly different from the process as instantly claimed will produce the product, which is not spherical compare to the instantly claimed product, and that in order to avoid phase separation monomer should be added continuously to the seed particles. Applicants further point out that Fig 1 and 3 in WO'076 show the irregular shaped particles, ***and Fig.3 illustrates the***

spherical particles (emphasis added-T.Z.) obtained as a result of continuous controlled growth of the particles by continuously dosing the monomer.

These arguments are not found persuasive for the following reasons:

a) Applicants themselves acknowledge the presence of **spherical particles** in WO'076 (no matter what is the process of making the identical product)

b) Applicants failed to show that the allegedly different process of WO'076 will produce a product materially different from the claimed product. Fig.3 in WO'076 does illustrate the presence of spherical particles, and all the other characteristics of the product (particles) per se are met by the disclosure of WO'076.

With regard to rejection of claims 11-21 (process claims) over Kasai the crux of Applicants' arguments is that in " Kasai the high swelling capacity is achieved by adding to the monomer an oily substance that has a water solubility of not more than 1/1 00 of the polymerizable monomer (claim 4). They claim that this effects the size distribution of the monomer droplets, probably underestimating the effect of this compound acting as a swelling agent of the particles. In the present invention, there are no limitations with regard to monomer droplet size or stability of emulsion that need to be fulfilled to achieve high swelling capacity. The seed particles in themselves have the ability to absorb or being swollen in huge amounts only by adding monomer and/or solvents to the seed particles. The reason for this is that the seed particles are a non-cross-linked polymerproduced by adispersion polymerization. This is completely different from what is disclosed in Kasai et al". This is not found persuasive, because

the patentability of the process is primarily defined by the process steps, as well as the substances involved and the outcome of the process. Kasai does disclose the polymerization steps, does disclose the monodisperse spherical particles (CV limitations) and does disclose the swelling capacity of the particles as per instant claims. Applicants' elaboration that these identical properties of Kasai's particles result from conditions not claimed in the instant Application does not defeat the anticipation of the claimed process.

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (571) 272-1115. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tatyana Zalukaeva
Primary Examiner
Art Unit 1713

May 18, 2004